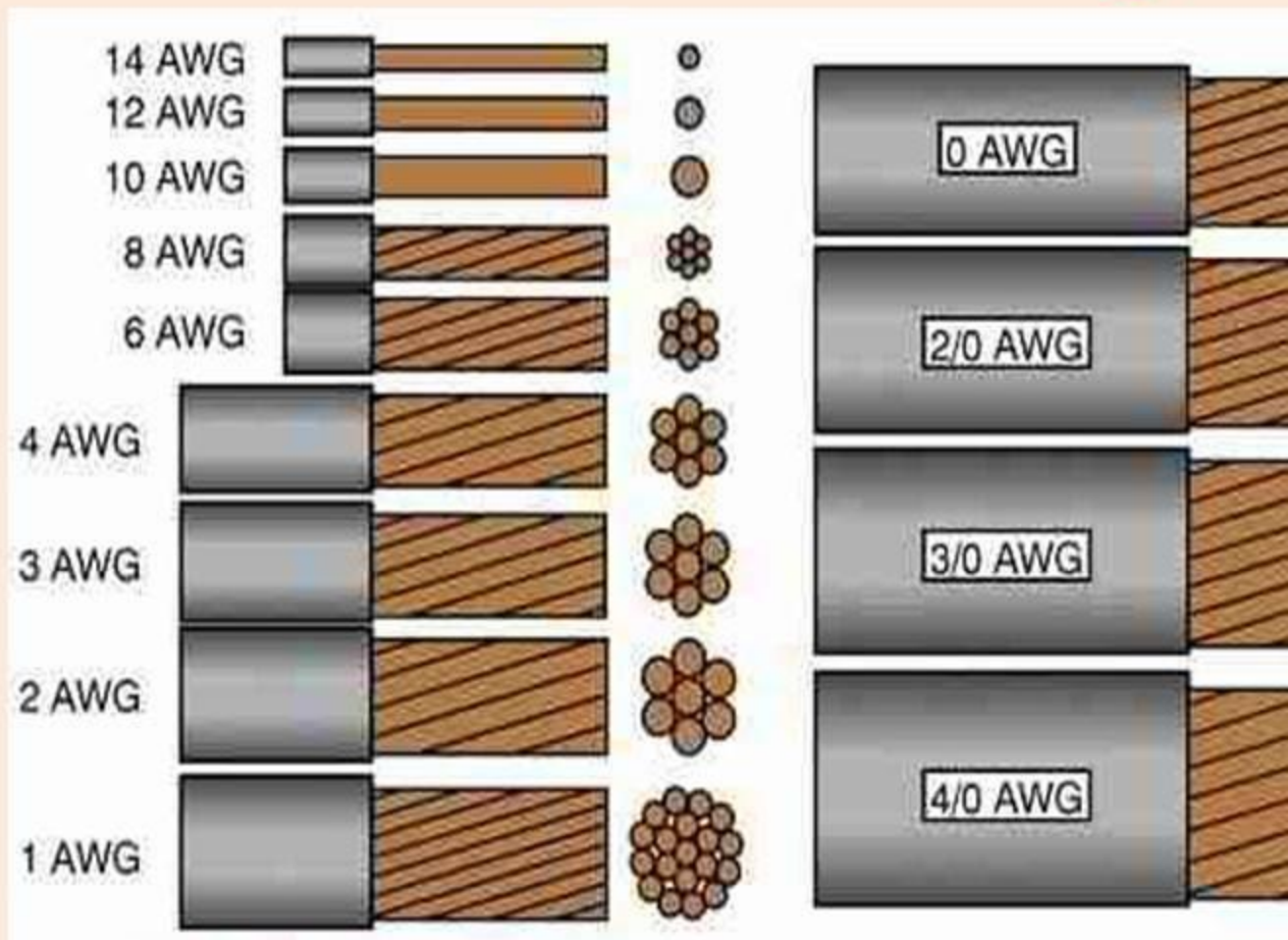


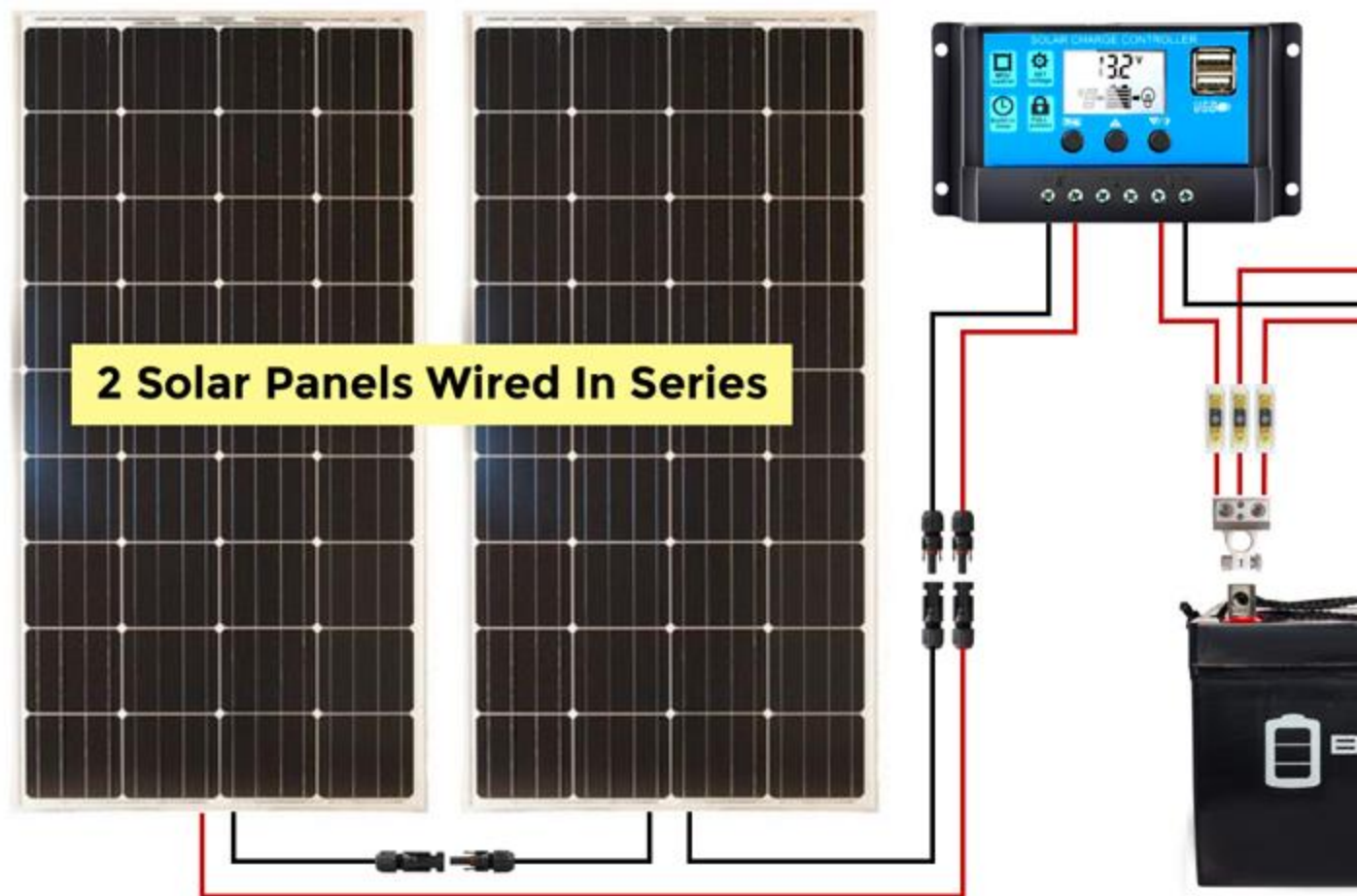
Wire Sizes – It's ok to go E



Wire Sizing Chart 12 Volt System

Maximum one-way distance (feet) for 2% voltage loss in 12 volt systems. Wire Size (AWG).
Do not exceed 5% drop for wire between PV modules – batteries

| Amps | 14 | 12 | 10 | 8 | 6 | 4 | 2 | 1/0 | 2/0 | 4/0 |
|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 45 | 70 | 115 | 180 | 290 | 456 | 720 | - | - | - |
| 2 | 22.5 | 35 | 57.5 | 90 | 145 | 228 | 360 | 560 | 720 | 1060 |
| 4 | 10 | 17.5 | 27.5 | 45 | 72.5 | 114 | 180 | 290 | 360 | 580 |
| 6 | 7.5 | 12 | 17.5 | 30 | 47.5 | 75 | 120 | 193 | 243 | 380 |
| 8 | 5.5 | 8.5 | 11.5 | 22.5 | 35.5 | 57 | 90 | 145 | 180 | 290 |
| 10 | 4.5 | 7 | 11.5 | 18 | 28.5 | 45.5 | 72.5 | 115 | 145 | 230 |
| 15 | 3 | 4.5 | 7 | 12 | 19 | 30 | 48 | 75.5 | 95 | 150 |
| 20 | 2 | 3.5 | 5.5 | 9 | 14.5 | 22.5 | 36 | 57.5 | 72.5 | 116 |
| 25 | 1.8 | 2.8 | 4.5 | 7 | 11.5 | 18 | 29 | 46 | 58 | 92 |
| 30 | 1.5 | 2.4 | 3.5 | 6 | 9.5 | 15 | 24 | 38.5 | 48.5 | 77 |
| 40 | - | - | 2.8 | 4.5 | 7 | 11.5 | 19 | 29 | 36 | 56 |
| 50 | - | - | 2.3 | 3.5 | 5.5 | 9 | 14.5 | 23 | 29 | 46 |
| 100 | - | - | - | - | 2.9 | 4.6 | 7.2 | 11.5 | 14.5 | 23 |
| 150 | - | - | - | - | - | - | 4.8 | 7.7 | 9.7 | 15 |
| 200 | - | - | - | - | - | - | 3.5 | 5.8 | 7.3 | 11 |



Typical Solar

Pair ca



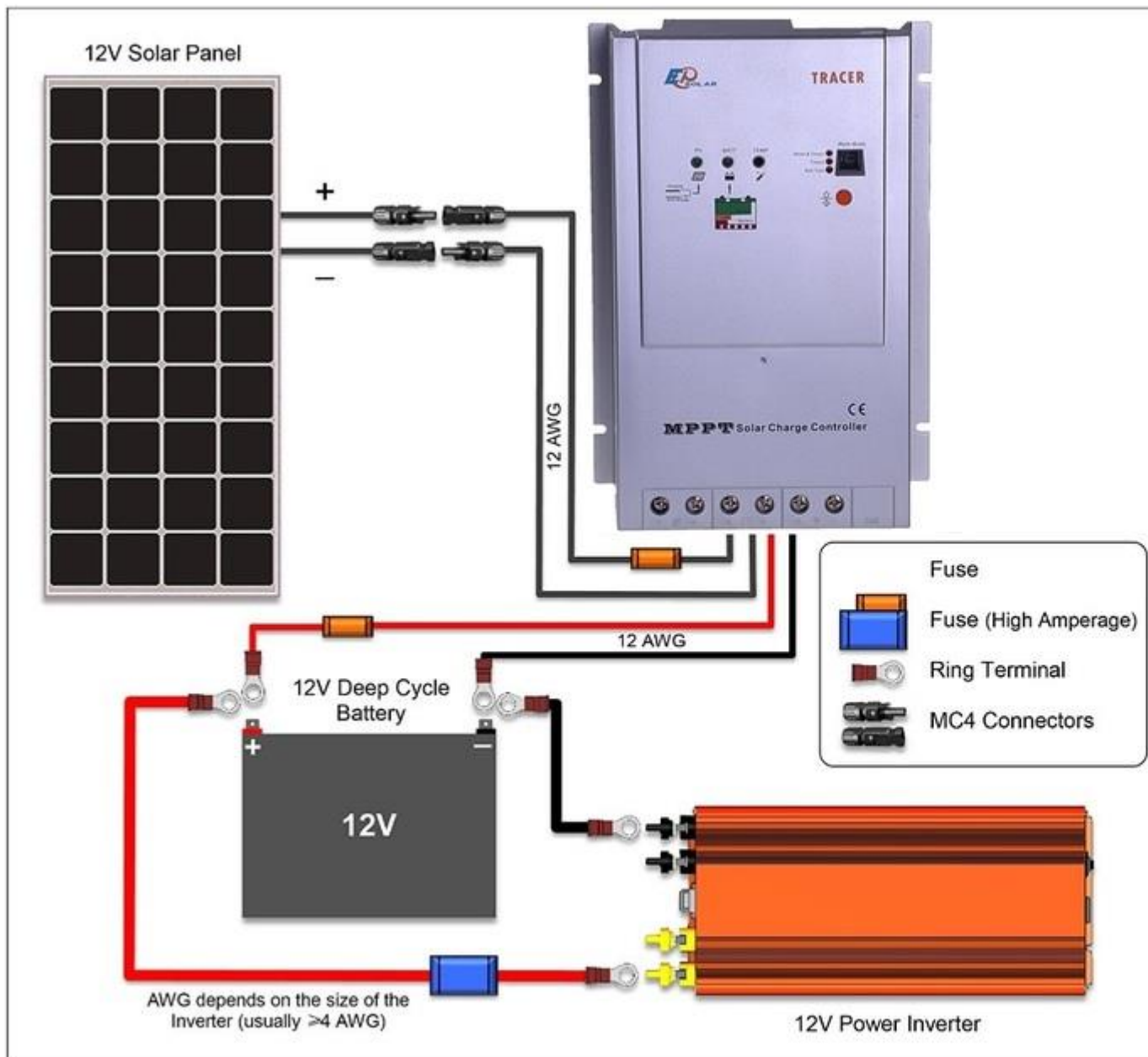
Solar to Regulator
(consider Power Loss)



Bat
(conside

Calculator Terms & Definitions





American Wire Gauge (AWG)

| Length (feet) | Current (amps) | | | | | | | | | |
|------------------|----------------|----|----|----|----|-----|-----|-----|-----|-----|
| | 5 | 10 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 |
| 15 | 16 | 12 | 10 | 10 | 8 | 8 | 6 | 6 | 4 | 4 |
| 20 | 14 | 12 | 10 | 8 | 8 | 6 | 6 | 4 | 4 | 4 |
| 25 | 14 | 10 | 8 | 8 | 6 | 6 | 4 | 4 | 2 | 2 |
| 30 | 12 | 10 | 8 | 6 | 6 | 4 | 4 | 2 | 2 | 2 |
| 40 | 12 | 8 | 6 | 6 | 4 | 4 | 2 | 2 | 1 | 1/0 |
| 50 | 10 | 8 | 6 | 4 | 4 | 2 | 2 | 1 | 1/0 | 1/0 |
| 60 | 10 | 6 | 6 | 4 | 2 | 2 | 1 | 1/0 | 2/0 | 2/0 |
| 70 | 10 | 6 | 4 | 2 | 2 | 2 | 1/0 | 2/0 | 2/0 | 3/0 |
| 80 | 8 | 6 | 4 | 2 | 2 | 1 | 1/0 | 2/0 | 3/0 | 3/0 |
| 90 | 8 | 4 | 4 | 2 | 1 | 1/0 | 2/0 | 3/0 | 3/0 | 4/0 |